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NOTES ON FISHES OBTAINED IN SUMATRA, JAVA AND TAHITI

BY

HENRY W. FOWLER
Of the Academy of Natural Sciences, Philadelphia

and

BARTON A. BEAN
Of the United States National Museum

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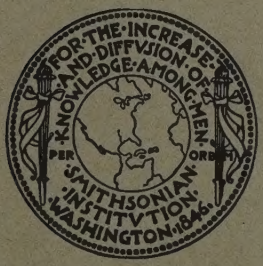

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INTRODUCTION

In October, November, and December, 1925, Lieut. H. C. Kellers, United States Navy, during the Solar Eclipse Expedition obtained in Java and Sumatra representatives of 100 species of fishes, and in June, 1925, Mr. J. Morgan Clements, of New York, while on a cruise along the north coast of Tahiti, Society Islands, collected representatives of 25 species, all of which have been deposited in the United States National Museum, and as but few collections of fishes from the Dutch Indies find their way into American museums we have prepared the present paper, in which several forms of exceptional interest are noted in detail and one is described as new.

To the already extensive bibliography of Sumatran fishes reference may here be made to that of Fowler in the Journal of the Academy of Natural Sciences of Philadelphia (ser. 2, vol. 12, 1904, pp. 557–559).

1. FISHES COLLECTED IN SUMATRA AND JAVA DURING THE NAVAL SOLAR ECLIPSE EXPEDITION, 1925, BY LIEUT. H. C. KELLERS, UNITED STATES NAVY

Family CLUPEIDAE

1. **DUSSUMIERIA HASSELTII Bleeker.**
Three, 52 to 71 mm. long, from Benkoelen.

2. **HARENGULA BRACHYSOMA (Bleeker).**
One 113 mm. long. Benkoelen.

3. **ILISHA BRACHYSOMA (Bleeker).**
One 88 mm. long, December 19, 1925.

4. **OPISTHOPTERUS MACROGNATHUS Bleeker.**
One 116 mm. long, November, 1925.

Family ENGRAULIDAE

5. ENGRAULIS KAMMALENSIS Bleeker.

Three from Benkoelen, 27 to 77 mm. long, November, 1925. In these the maxillary does not quite reach the edge of the gill-opening. A narrow, faint, gilt lateral streak.

6. ENGRAULIS PURAVA (Buchanan-Hamilton).

One 43 mm. long, November, 1925.

7. ENGRAULIS VALENCIENNES Bleeker.

Three 96 to 130 mm. November, 1925.

Family MASTACEMBELIDAE

8. MASTACEMBELUS MACULATUS Cuvier.

One 95 mm. long, from rice field near Kipahiang, January 4, 1926.

Family ECHIDNIDAE

9. LYCODONTIS UNDULATUS (Lacépède).

One 125 mm. long, from Poeloe Toekus Island, Indian Ocean, December 19, 1925. Dark in color and greatly suggestive of *Gymnothorax hilonis;* another, 48 mm. long, has tip of jaws and two bands on head white.

10. UROPTERYGIUS CONCOLOR (Rüppell).

One from Poeloe Toekus Island, 138 mm. long; collected November, 1925.

Family CYPRINIDAE

11. CYPRINUS CARPIO Linnaeus.

Seven from rice fields near Kipahiang; January 26, 1926.

12. BARBUS BINOTATUS (Van Hasselt).

Twenty, 33 to 73 mm. long, January 6, 1926, and 17, 29 to 76 mm., January 22, 1926, same locality as last.

13. BARBUS BUNTER Bleeker.

Barbus bunter BLEEKER, Nat. Tijds. Ned. Indie, vol. 13, 1857, p. 350. Rio Tjidani Tjampea, West Java.

Puntius (*Barbodes*) *bunter* BLEEKER, Atlas. Ichth., vol. 3, 1863, p. 101, pl. (38) 139, fig. 3.

Head, 3⅘ to 4⅛; depth, 2⅖ to 2½; D. III, 8, 1; A. III, 1, or 9, 1; scales, 23 or 24 in lateral line to caudal base and two more on latter; 5 scales above lateral line, 4 below; 8 to 10 predorsal scales; snout, 3 to 3½ in head; eye 2⅘ to 3, greater than snout, 1⅛ to 1⅕ in interorbital; maxillary, 2⅘ to 3 in head; interorbital, 2⅖ to 2⅘. Body ovoid, well compressed, back elevated, predorsal with slight median keel; caudal peduncle compressed, least depth 1 to 1⅕ its length or 1⅘ to 2 in head.

Head width, 1¾ to 1⅘ in its length; snout convex, obtuse, its width ⅔ to ⅘ its length; eye large, high, little anterior in head; maxillary small, reaching two or slightly behind front eye edge. Bar-

bels 4, anterior 2½ in eye, posterior 2. Nostrils close together, situated in last third of snout. Interorbital broadly convex. Gill rakers 3 plus 9 short weak points, ⅛ of gill filaments, which is 1¾ in eye. Scales with 11 or 12 radiating striae; circuli very fine; scales on body all large, well exposed, forming broad basal sheaths to dorsal and anal; also extended over caudal base. Ventral axillary scale, ⅗ of fin. Scales on breast small. The lateral line arches slightly below median axis of body and along lower side of caudal peduncle; tubes slender and well exposed. First three rays of dorsal osseus, hind margin of the third serrated; long tip flexible; first branched ray slightly longer than head. Anal small, entirely behind dorsal, first three rays stiff, third robust though much thinner than third dorsal spine; third simple anal ray 1⅔ to 1⅗ head. Caudal deeply forked,

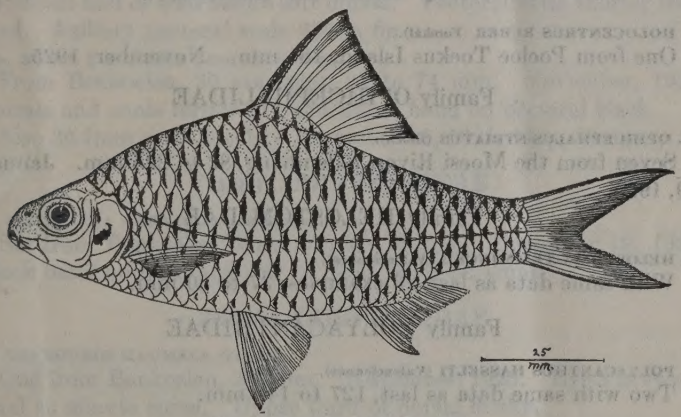


FIG. 1.—BARBUS BUNTER BLEEKER

its slender pointed lobes being contained 2⅔ to 3 in the combined head and body length. Pectoral 1 to 1⅛ in head; ventral 1⅛ to 1⅕.

Color in spirits, back brown with light lavender to bluish metallic shades; sides and below silvery white; base of each scale with a dusky cresent blotch; head brownish above, with a dusky blotch on opercle below; iris silvery white; dorsal and anal pale grayish; margins narrowly dusky to blackish; lower fins whitish; ventral with slight gray tint.

Three specimens, 123 to 137 mm. long, Moesi River at Lahat, were taken January 25, 1926. These agree with Bleeker's figure in most every way and are interesting as a rediscovery of the species. The type was 115 mm. long and lost after Bleeker figured it.

14. RASBORA ARGYROTAENIA (Bleeker).

Nine from rice fields near Kipahiang, January 6, 1926. Length 37 to 56 mm.

Family BAGRIDAE

15. GLYPTOTHORAX PLATYPOGONOIDES (Bleeker).
Two with same locality as last species, 40 mm. January 14, 1926.

Family BELONIDAE

16. STRONGYLURA STRONGYLURA (Van Hasselt).
One from Benkoelen, 260 mm. December 13, 1925.

Family HEMIRAMPHIDAE

17. ZENARCHOPTERUS DISPAR (Valenciennes).
Seven from Benkoelen, 156 to 160 mm. December 13, 1925.

Family HOLOCENTRIDAE

18. HOLOCENTRUS RUBER (Forskål).
One from Poeloe Toekus Island, 181 mm. November, 1925.

Family OPHICEPHALIDAE

19. OPHICEPHALUS STRIATUS (Bloch).
Seven from the Moesi River, Palembang, 82 to 225 mm. January 29, 1926.

Family HELOSTOMIDAE

20. HELOSTOMA TEMMINCKII (Valenciennes).
With same data as last, 23 examples, 37 to 80 mm.

Family POLYACANTHIDAE

21. POLYACANTHUS HASSELTI (Valenciennes).
Two with same data as last, 127 to 140 mm.

Family OSPHRONEMIDAE

22. TRICHOPODUS TRICHOPTERUS (Pallas).
Same date as last, 29 examples, 44 to 80 mm.

Family ANABANTIDAE

23. ANABAS TESTUDINEUS (Bloch).
Also with same data as last 4 species, 56 examples, 43 to 132 mm.

Family ATHERINIDAE

24. ATHERINA DUODECIMALIS (Valenciennes).
Five from Benkoelen Beach, 93 to 105 mm. November, 1925. Agrees with Weber and Beaufort's account, though with slightly fewer lateral scales, 38 to 40, as compared with 42 to 45.
Six from same locality, 33 to 105 mm. December 19, 1925.

Family MUGILIDAE

25. MUGIL CERAMENSIS (Bleeker).

From Benkoelen, 28 examples, 35 to 54 mm. November, 1925.

Four from Benkoelen, 30 to 34 mm. December 19, 1925.

D. VI–I, 8, I; A. III, 9. Scales 30, transversely 12 at soft dorsal origin. Small scale in pectoral axil. No adispose eyelid. Pectoral 1⅔ to 1½ in head. Maxillary visible. Silvery, back blue gray. Below white, fins pale.

26. MUGIL DUSSUMIERI (Valenciennes).

At Benkoelen, 232 examples, 16 to 124 mm. December 13–19, 1925.

A. II, 9. Scales 30. Eye long as snout, with adipose lids. Maxillary visible. First anal spine inserted nearer caudal base than snout tip; front half of anal before soft dorsal. Pectoral little shorter than head. Axillary pectoral scale 2⅔ in fin.

26 a. MUGIL VAIGIENSIS (Quoy and Gaimard).

From Benkoelen, 30 examples, 24 to 74 mm. November, 1925. Dorsals and anals terminally and upper band on pectoral black.

Also 30 from same locality December 19, 1925, 14 to 30 mm.

Family SPHYRAENIDAE

27. SPHYRAENA BARRACUDA (Walbaum).

Six from Benkoelen Beach, 30 to 110 mm. December 19, 1925. Black band on head and row of black spots on trunk.

Family TRICHIURIDAE

28. TRICHIURUS HAUMELA (Forskål).

One from Benkoelen, 238 mm. November, 1925. Eye 2 in snout. Anal as minute spine. Upper third of dorsal dusky.

One from same locality, 263 mm. long, December 19, 1925.

Family CARANGIDAE

29. CARANX SEXFASCIATUS (Quoy and Gaimard).

One from Benkoelen, 76 mm. December, 1925.

30. SCYRIS INDICA (Rüppell).

One from Benkoelen, 65 mm. December 19, 1925. Like Day's figure of *Caranx gallus* though ventral little longer.

Family LEIOGNATHIDAE

31. LEIOGNATHUS EQUULA (Forskål).

One from Benkoelen, 52 mm. December 17, 1925. Chest naked, spinous dorsal uniformly pale, lower preopercle edge finely serrated.

32. LEIOGNATHUS BLOCHI (Valenciennes).

One from Benkoelen beach, 75 mm. December 19, 1925.

33. LEIOGNATHUS SPLENDENS (Cuvier).

One from Benkoelen, 93 mm. November 1925.

34. SECUTOR INSIDIATOR (Bloch).

One from Benkoelen, 57 mm. November, 1925.

35. SECUTOR RUCONIUS (Buchanan-Hamilton).

From Benkoelen 57 examples, 28 to 45 mm. November, 1925.

Family CHEILODIPTERIDAE

36. AMIA SANGIENSIS (Bleeker).

Fifteen from Benkoelen, 43 to 59 mm. November, 1925.

Family AMBASSIDAE

37. AMBASSIS GYMNOCEPHALUS (Lacépède).

One from Benkoelen, 56 mm. December 19, 1925.

Family SERRANIDAE

38. SERRANUS MERRA (Bloch).

One from Poeloe Toekus Island, 175 mm. November 25, 1925.

Also 1 from same locality, 185 mm. December 20, 1925. Largely yellowish with brown to dusky blotches.

39. SERRANUS TAUVINA (Forskål).

One from Benkoelen, 175 mm. December, 1925. D. XI, 15; A. III, 8. Scales 93+10, transversely 17 and 25; tubes 59+5 in lateral line. Pectoral 1¾ in head. Scales mostly aliated. Maxillary with patch of small scales. Opercular spines equidistant. Interorbital three-fourths of eye. Caudal convex behind.

Family PEMPHERIDAE

40. PEMPHERIS ADUSTUS (Bleeker).

One from Poeloe Toekus Island, 198 mm. December 20 to 25, 1925 Dark blotch at pectoral base, also front edge of dorsal and upper and lower caudal edges. Agrees with Bleeker's figure.

Family LUTJANIDAE

41. LUTJANUS KASMIRA (Forskål).

One from Benkoelen, 140 mm. December 13, 1925.

42. LUTJANUS OLIGOLEPIS (Bleeker.)

Three from Poeloe Toekus Island, 180 to 230 mm. November 25, 1925. Back brown, each scale with basal gamboge blotch and below with rosy tinge. Black blotch below front of soft dorsal on lateral line. Fins all with dull grayish tinge. Iris pale rosy purplish. Like Bleeker's figure, with second anal spine less than third. The smallest example differs in 6 horizontal gamboge lines below lateral line.

43. LUTJANUS MARGINATUS (Cuvier).

One from Poeloe Toekus Island, 203 mm. November 25, 1925.

Three from Benkoelen, 34 to 52 mm. November, 1925. These without dark lateral blotch. Dorsals and caudal dusky. Small spine at angle of serrated preopercle edge.

44. LUTJANUS RIVULATUS (Cuvier).

One from Poeloe Toekus Island, 215 mm. November 25, 1925.

Family POMADASIDAE

45. PLECTORHINCHUS CRASSISPINUS (Rüppell).

Two from Benkoelen, 40 to 73 mm. December, 1925. Agrees with Day's figure. Both show posterior two-thirds of tail abruptly white and borders of soft dorsal and anal broadly white, latter 2 fins broadly blackish submarginally.

46. POMADASIS MACULATUS (Bloch).

Two from Benkoelen, 83 to 126 mm. November, 1925. Smaller example with isopod crustacean attached to base of caudal fin.

Family THERAPONIDAE

47. THERAPON JARBUA (Forskål).

Two from Benkoelen, 25 to 32 mm. November, 1925.

Twenty-eight from same locality, 14 to 57 mm. December 19, 1925.

Family LETHRINIDAE

48. PENTAPUS AUROLINEATUS (Lacépède).

One from Poeloe Toekus Island, 716 mm. November 25, 1925. Soiled gray white with ill-defined dull yellowish longitudinal band. Iris straw yellow. Rays of most fins with pale buff.

Family GERRIDAE

49. GERRES FILAMENTOSUS (Cuvier).

Three from Benkoelen, 17 to 28 mm. November, 1925. Scales above lateral line 6. Depth, 2⅔. Second dorsal spine not elongated. Nine transverse dark bands on sides. Spinous dorsal and caudal largely grayish marginally.

50. GERRES ABBREVIATUS (Bleeker).

Two from Benkoelen, 26 to 100 mm. December 13 to 19, 1925. Agree with the figures by Bleeker and Day, though only edge of spinous dorsal dusky and hind caudal edge pale, like rest of fin. Scales above lateral line to spinous dorsal origin 5, in lateral line 55. Second dorsal spine 1¼ in head. Broad scaleless groove in interorbital for premaxillary projections.

Family MULLIDAE

51. UPENEOIDES VITTATUS (Forskål).

Two from Benkoelen, 98 to 100 mm. December 13 to 19, 1925.

52. UPENEOIDES TRAGULA (Richardson).

One from Benkoelen, 42 mm. December 19, 1925.

53. MULLOIDES AURIFLAMMA (Forskål).

One from Poeloe Toekus Island, 315 mm. November 25, 1925. Brilliant gamboge band from eye to upper caudal lobe basally. Sides of head and body with rose copper tints. Back brown. Iris pale

coppery. Barbels and muzzle pale greenish white or sage green. Vertical fins citron yellow, paired fins paler.

Family SCIAENIDAE

554. SCIAENA DUSSUMIERI (Valenciennes).

One from Benkoelen, 84 mm. December 17, 1925. Scales ctenoid. Color quite dark, most of fins more or less deep dusky.

Family SILLAGINIDAE

5. SILLAGO SIHAMA (Forskål).

Thirty-one from Benkoelen, 26 to 90 mm. November, 1925.

Twelve from same locality, 38 to 85 mm. December 19, 1925.

Family EPHIPPIDAE

56. DREPANE PUNCTATA (Linnaeus).

One example from Benkoelen, 70 mm. November, 1925.

Family TOXOTIDAE

57. TOXOTES JACULATOR (Pallas).

Two from Benkoelen, 88 to 103 mm. December 13, 1925.

Family CHAETODONTIDAE

58. CHAETODON TRIFASCIATUS Mungo Park.

Two from Poeloe Toekus Island, 88 to 105 mm. November, 1925.

One from same locality, 110 mm. December 20, 1925.

59. CHAETODON VAGABUNDUS Linnaeus.

Three from Poeloe Toekus Island, 118 to 133 mm. December 20 to 25, 1925.

60. CHAETODON RAFFLESII Bennett.

Two from Poeloe Toekus Island, 120 and 121 mm. Largely greenish yellow with orange tinge on lower side.

61. CHAETODON LINEOLATUS Cuvier.

One from Poeloe Toekus Island, 210 mm. November, 1925.

Family ACANTHURIDAE

62. HEPATUS TRIOSTEGUS (Linnaeus).

One from Benkoelen beach, 28 mm. December 19, 1925.

One from Poeloe Toekus Island, 170 mm. December 20, 1925.

63. CTENOCHAETUS STRIGOSUS (Bennett).

One example from Poeloe Toekus Island, 160 mm. November, 1925.

Family SIGANIDAE

64. SIGANUS JAVUS (Linnaeus).

One from Benkoelen, 106 mm. December 13, 1925.

65. SIGANUS CONCATENATUS (Valenciennes).

Two from Poeloe Toekus Island, 285 mm. November, 1925. Neutral gray to drab above, below gray white, covered with bright yellow spots.

Two from Benkoelen, 135 to 138 mm. December 13, 1925.

Family SCORPAENIDAE

66. PTEROIS VOLITANS (Linnaeus).

One from Benkoelen, 126 mm. November, 1925.

Family CARACANTHIDAE

67. CARACANTHUS UNIPINNA (Gray).

Four from Poeloe Toekus Island. 32 to 38 mm. December 19–20, 1925.

Three from same locality, 28 to 38 mm. November, 1925.

Family PLATYCEPHALIDAE

68. PLATYCEPHALUS INDICUS (Linnaeus).

One from Benkoelen, 170 mm. November, 1925.

Family PLEURONECTIDAE

69. PLATOPHRYS PANTHERINUS (Rüppell).

Four from Benkoelen, 28 to 112 mm. December, 1925.

Two with same locality, 93 to 98 mm. December, 1925.

Family SOLEIDAE

70. CYNOGLOSSUS SUMATRENSIS (Bleeker).

One from Benkoelen, 98 mm. November, 1925. Depth, 4⅕. Scales, 68 from gill opening to caudal base; 2 lateral lines, 12 scales between.

Family POMACENTRIDAE

71. POMACENTRUS TRIPUNCTATUS Cuvier.

One from Poeloe Toekus Island, 62 mm. November, 1925. Dull olive, little paler below. Pectoral and caudal with yellow. Very small dusky dot at pectoral origin.

72. ABUDEFDUF SAXATILIS (Linnaeus).

One from Poeloe Toekus Island, 90 mm. November, 1925. Back pale greenish, cross bands neutral dusky, less wide than greenish.

73. ABUDEFDUF UNIMACULATUS (Cuvier).

One from Benkoelen, 88 mm.

Family LABRIDAE

74. HALICHOERES MINIATUS (Valenciennes).

One from Benkoelen, 62 mm. December 16, 1925.

75. HALICHOERES NEBULOSUS (Valenciennes).

One from Benkoelen, 93 mm. December 16, 1925.

76. HALICHOERES PAPILIONACEUS (Valenciennes).

One from Benkoelen, 96 mm. December 19, 1925.

77. HALICHOERES JAVANICUS (Bleeker).

One from Benkoelen, 77 mm. December 19, 1925. Though discolored by formaline agrees fairly well with Bleeker's figure. Black spot at pectoral axil very distinct, also scattered dark spots on body scales. Fins now all uniform. Dark postocular blotch not pronounced.

Family CALLYODONTIDAE

78. CALLYODON SORDIDUS (Forskål).

One from Poeloe Toekus Island, 321 mm. November 25, 1925. Green line along edge of lower lip arches up toward lower eye edge and then down toward pectoral origin. Also green line along upper lip close to edge, then to eye and continued above posteriorly. Slight green bar from lower hind eye edge. Dorsals with bright green borders and median row of green blotches, rest of fin gray green. Anals green, with median neutral gray longitudinal band. Caudal bright green. Paired fins more or less bright green to yellowish.

79. CALLYODON FASCIATUS (Valenciennes).

One from Poeloe Toekus Island, 353 mm. No canines. Edges of median lateral scales dull yellowish. Greenish lines radiate from eye. Edges of dorsals green, also upper and lower caudal edges. Anal with basal green band and broader marginal. Pectoral with green edge above.

Family ELEOTRIDAE

80. ELEOTRIS FUSCA (Schneider).

Two from Benkoelen, 55 to 60 mm. November, 1925.

One from same locality, 48 mm. December 19, 1925.

81. ELEOTRIS WARDII Playfair.

Eleotris wardii PLAYFAIR, Fishes of Zanzibar, 1866, p. 73, pl. 9, fig. 3. Zanzibar.

Head, 3⅕; depth 5¼; D. VI–I, 12; A. I, 12, 1; scales about 95 in median lateral series and 6 more in caudal base; 28 scales transversely; snout, 3¼ in head from snout tip; eye 4½; maxillary, 2⅖; interorbital, 2 in eye.

Head width, 2 in its length. Eye, 1½ in snout. Maxillary reaches middle of eye. Lower jaw projects. Outer teeth little enlarged, with small canine each side below anteriorly and directed backward. Gill, opening lateral, 2⅖ in total head length.

Scales with 8 or 9 basal radiating striae and row of 7 or 8 strong apical denticles; circuli moderate. Head, chest, and pectoral base naked, scales minute or obsolete on predorsal. Third dorsal spine,

1⅘ in total head length; last dorsal ray, 3; last anal ray, 2⅙; least depth of caudal peduncle, 3; pectoral, 1⅔; ventral, 1½.

Color in alcohol largely pale brownish, with slight olive tinge. Several small, pale grayish ocelli on preorbital and few larger ones scattered on cheek, opercle and preopercle. Fins all pale. Spinous dorsal with black apical blotch large as pupil.

Length, 45 mm.

One example from Benkoelen. December 19, 1925. It agrees with Playfair's figure though is younger. Its color pattern is less elaborate and the pale oblique bar on the side of the head is represented by spots.

82. BUTIS BUTIS (Buchanan-Hamilton).

One example, 105 mm. This and the next two species obtained at Batavia, Java, October, 1925.

Family GOBIIDAE

83. GLOSSOGOBIUS GIURUS (Buchanan-Hamilton).

One example, 123 mm.

84. EUCTENOGOBIUS CRISTATUS (Day).

Two examples, 120 mm.

85. GOBIODON CITRINUS (Rüppell).

Four from Poeloe Toekus Island, 36 to 42 mm. December 20, 1925. Uniformly pale.

Three dark brown examples, same data, 34 to 36 mm.

One from same locality in November, 1925. All show traces of vertical lines in head.

86. GOBIUS ORNATUS Rüppell.

Ten from Benkoelen, 60 to 99 mm. December 19, 1925.

87. GOBIUS CRINIGER Valenciennes.

One from Benkoelen, 78 mm. December 14, 1925.

88. BATHYGOBIUS FUSCUS (Rüppell).

One from Benkoelen, 42 mm. December 19, 1925.

89. BATHYGOBIUS POECILICHTHYS (Jordan and Snyder).

Two small examples from Benkoelen, December 19, 1925. Head, 3¾; depth, 4⅖; D. VI–I, 9, 1; A. I, 8; scales, 35+3, transversely 15; snout, 4½ in head from snout tip; eye, 3; maxillary, 3⅕; interorbital, 2⅔. Agree on comparison with a series of examples from Tanegashima Island, Japan.

90. PERIOPHTHALMUS KOELREUTERI (Pallas).

Two from Benkoelen, 53 to 58 mm. November, 1925.

Family CALLIONYMIDAE

91. CALLIONYMUS SAGITTA Pallas.

Two from Benkoelen, 65 to 68 mm. November, 1925. Differ from Day's figure [1] in that the eye is long as snout, Day showing eye twice

[1] Fishes of India, pt. 2, 1876, pl. 68, fig. 5, females.

snout. Interorbital 2½ in orbit, Day says eyes "closely approximating" while Valenciennes gives one-third. Our examples with blackish blotch on preorbital and *antero-infra orbital*, also chin and mandible anteriorly covered with close set blackish dots.

92. CALLIONYMUS KELLERSI, new species.

Head, 2⅛; depth, 6⅛; D. IV, 9, 1; A. 9, 1; P. 22; V. I, 5. Snout, 4 in head; eye, 6; maxillary, 3; interorbital, 6½.

Body greatly depressed anteriorly, widest at pectoral bases. Caudal peduncle well compressed, its length 4¾ in that of head. Head width 1½ its length; snout depressed, length ⅜ its width at front of eyes. Eye large, superior, 1⅜ in snout; equal to interorbital.

FIG. 2.—CALLIONYMUS KELLERSI FOWLER AND BEAN, TYPE

Mouth broad, lower jaw slightly shorter; maxillary reaches opposite front eye edge; band of fine teeth in jaws rather narrow. Nostrils nearer eye than end of snout. Interorbital level about equals eye. Several postocular cranial patches of radiating striae covered with thin skin. Preopercle limb robust, compressed, with five strong teeth above, all directed upward. Gill-opening small, above pectoral orgin. Skin smooth, naked. Lateral line superior on trunk, median along side of tail. Dorsals separated, though close; spines flexible; first 3⅓ in head; rays uniform, subequal. Anal begins behind soft dorsal origin, and last rays posterior to soft dorsal; rays similar and edge notched. Caudal oblong, 1¾ in head, hind edge truncate. Pectoral with broad base, reaches anal orgin. Ventral long as pectoral, rays well branched.

General color in alcohol grayish brown; belly and under surface of head grayish white; back and upper surface of head with numerous

obscurely defined dots, specks and variable broken lines of dusky gray; sides and lower lateral regions with dull gray shades; spinous dorsal neutral black; soft dorsal and anal with as many as four dark spots on each ray, fins otherwise light grayish; caudal similar, but with a few more spots; pectoral pale, upper rays with dark spots; ventral neutral, dusky neutral, black terminally. Length 73 mm.

Type.—Cat. No. 87935, U.S.N.M.

Benkoelen, Sumatra, November, 1925. Lieut. H. C. Kellers, collector.

Related to *Callionymus opercularioides* Bleeker, but differs in that the interorbital width equals eye, whereas in Bleeker's species the eye is contained twice in the same width; also Bleeker species is blackish.

Named for its discoverer Lieut. H. C. Kellers.

Family BLENNIIDAE

93. SALARIAS MARMORATUS Bennett.

One from Benkoelen, 62 mm. long, December 14, 1925.

94. SALARIAS LINEATUS Valenciennes.

Four from Benkoelen, 55 to 64 mm. long. December 14, 1925.

One from same locality, 59 mm. long. December 19, 1925.

95. SALARIAS EDENTULUS (Schneider).

One from Benkoelen, 83 mm. December 19, 1925. Supraocular tentacle palmate and fringed.

96. SALARIAS PERIOPHTHALMUS Valenciennes.

One from Benkoelen, 70 mm. December 14, 1925.

Two from same locality 62 to 72 mm. December 19, 1925.

Family BALISTIDAE

97. BALISTES CHRYSOPTERUS (Schneider).

One from Poeloe Toekus Island, 130 mm. December 20, 1925.

98. BALISTAPUS UNDULATUS (Mungo Park).

One from Poeloe Toekus Island, 135 mm. November, 1925. Fins largely yellowish, brighter basally.

Family TETRODONTIDAE

99. SPHOEROIDES LUNARIS (Schneider).

Two from Poeloe Toekus Island, 140 to 205 mm. November 25, 1925.

100. SPHOEROIDES OBLONGUS (Bloch).

Four from Benkoelen, 42 to 72 mm. November, 1925.

2. FISHES COLLECTED BY MR. J. MORGAN CLEMENTS IN TAHITI, NORTH COAST, SOCIETY ISLANDS, DURING JUNE, 1925.

Though none of the species listed are new, several are interesting records for this group of Polyneisan Islands.

Family HOLOCENTRIDAE

1. HOLOCENTRUS LACTEOGUTTATUS Cuvier.

Eight examples, 75 to 93 mm. Dotted with dusky on back.

Family SYNGNATHIDAE

2. CORYTHOICHTHYS CONSPICILLATUS (Jenyns).

Thirteen examples, 93 to 108 mm.

Family MUGILIDAE

3. MUGIL CRENILABIS Forskål.

Six examples, 54 to 72 mm.

Family CHEILODIPTERIDAE

4. AMIA CRASSICEPS Garman.

One example, 41 mm. Head, 2⅞; depth, 2⅔; D. VI–I, 9; A. II, 7; scales, 23+2?, 2 above lateral line, 7 below, 6? predorsal; snout, 4 in head; eye, 3; maxillary, 1⅞; interorbital, 4.

Family KUHLIIDAE

5. KUHLIA MARGINATA (Cuvier).

Nine examples, 40 to 140 mm.

6. KUHLIA TAENIURA (Cuvier).

One example, 33 mm. Agrees with Garrett's figure as published by Günther. Color largely uniformly silvery. Caudal with 2 black oblique bands besides the median band.

Family MULLIDAE

7. UPENEUS BIFASCIATUS (Lacépède).

One example, 142 mm.

Family ACANTHURIDAE

8. HEPATUS TRIOSTEGUS (Linnaeus).

Six examples, 30 to 95 mm.

9. ACANTHURUS UNICORNIS (Forskål).

Three examples, 93 to 131 mm.

Family SIGANIDAE

10. SIGANUS RIVULATUS (Forskål).

Two examples, 117 to 130 mm. These stained dark but agree very well with Günther's figure of *Teuthis nebulosus*. Ventrals with 3 dark blotches. Caudal with 4 or 5 dark cross bands, obsolete medianly on fin.

Family SCORPAENIDAE

11. PTEROIS ANTENNATA (Bloch).
Two examples, 67 to 120 mm.

Family POMACENTRIDAE

12. ABUDEFDUF LACRYMATUS (Quoy and Gaimard).
Two examples, 80 to 112 mm. Like Günther's figure.

13. ABUDEFDUF BIOCELLATUS (Quoy and Gaimard).
Two examples, 33 to 37 mm. Without black ocelli on dorsal.

14. ABUDEFDUF GLAUCUS (Cuvier).
Six examples, 72 to 93 mm. Compared with examples from Samoa and Riu Kiu and found to agree in every respect.

15. ABUDEFDUF IMPARIPENNIS (Vaillant and Sauvage).
Six examples, 54 to 61 mm. All show the dark vertical band through the eye wide as the pupil. Agree with Hawaiian examples.

Family ELEOTRIDAE

16. ELEOTRIS FUSCA (Schneider).
Twelve examples, 90 to 168 mm. long. Mr. Clements observed these as rock-climbing fish. Native name Oopu.

Family GOBIIDAE

17. BATHYGOBIUS FUSCUS (Rüppell).
Five examples, 55 to 92 mm. long.

Family BLENNIIDAE

18. SALARIAS SALIENS (Forster).
Fifteen examples, 37 to 93 mm.

19. SALARIAS EDENTULUS (Schneider).
Three examples, 83 to 120 mm. long.

20. SALARIAS MARMORATUS Bennett.
Two examples, 80 to 95 mm.

21. SALARIAS LINEATUS Valenciennes.
Forty-four examples, 20 to 100 mm.

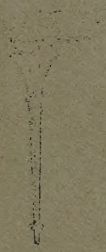
22. SALARIAS CAUDOLINEATUS Günther.
One example, 58 mm.

23. SALARIAS PERIOPHTHALMUS Valenciennes.
Three examples, 103 to 160 mm.

Family CARAPIDAE

24. CARAPUS HOMEI (Richardson).
One example, 80 mm.

Family CANTHIGASTERIDAE

25. CANTHIGASTER SOLANDRI (Richardson).
Three examples, 52 to 60 mm.

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